Recent Progress in Medicinal Plants

Volume 16

Phytomedicines

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ISBN : 0-9761849-8-2
SERIES ISBN : 0-9656038-5-7

2007

Studium Press LLC, U.S.A.
P.O. Box-722200, Houston, Texas-77072, USA
Tel.: 713-541-9400; Fax : 713-541-9401
E-mail : studiumpress@studiumpress.com
Some Important Folklore Medicinal Plants Used by Tangkhul Nagas of Ukhrul District, Manipur, India

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Abstract

The present paper reports some important folklore medicinal plants that are used by Tangkhul Nagas of Ukhrul District, Manipur to cure diarrhoea and parasitic infections. Barring few for most of these plants there is no mention in the literature about their any medicinal use. The information about use of these plants was collected from local healers and later their acclaimed efficacy was adjudged by means of experimental studies in animal models. In the present study, most of the plants tested revealed promising medicinal potentials. The plants which showed significant activity include, Rhus javanica, Svertia angustifolia and Psidium guajava for antidiarrhoeal remedy; Strobilanthes discolor and Adhatoda vasica as anticestodal agents; and Solanum myriacanthum, Carica papaya and Artemisia ambrosifolia as antifilarial remedy.

Key words: Folklore plants, Diarrhoea, Parasitic infections, Naga tribe, Manipur

Introduction

Of more than one billion population in India, the tribal communities alone constitute roughly 10% of nation’s total population. In the north-east region

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of India which is richly inhabited by several tribes, including Naga tribes there is a rich folklore regarding the use of several plants or plant-derived preparations for treating various ailments. A majority of Naga tribal population resides in Nagaland state, however the same is also distributed in parts of Manipur state, and bordering areas of Assam and Arunachal Pradesh. There are about total 66 tribes and sub-tribes within the umbrella of Naga race who are popularly claimed to be more or less of Mongolian stock. Nagas like Mongolians are stout, short in stature, yellowish in colour, having distinct racial and socio-cultural entities. These people prefer to live mostly on hill tops and hill slopes forming more like small isolated villages surrounded by dense forests. Of various tribes in Naga community the Tangkhul tribe occupies an important place which is predominantly distributed in Ukhrul District of Manipur State. The state of Manipur lies stretching between latitudes of 23.80°N to 25.68°N and longitudes of 93.03°E to 94.78°E, covering an area of 22,327 sq. km that constitutes about 0.68 % of the entire country. It is encircled by nine hill ranges on all sides with a small Imphal valley at the centre. Of the nine districts in Manipur, four hill districts are inhabited by Naga community.

Living beside dense forests, with thick vegetations around and with rich biodiversity in fauna and flora, the Naga people have acquired lifestyles of depending upon the natural resources for their existence including wealth of medicinal plants for treatment of various diseases. Subsequently they have developed the knowledge and information about curing several ailments through their age long experiences and pass on the knowledge from one generation to another. At some point of time, this knowledge of using medicinal plants was kept as secret for the interest of the traditional healers. Therefore nowadays, correct and authentic informations about the uses of medicinal plants and their preparations could be collected only from the local healers called Haori-khanong (in Tangkhul dialect) with a request to make use of the knowledge for exploration to scientific world.

Gastrointestinal diseases including diarrhoea, parasitic infections etc. are very common health problems in the tribal communities in India. In the north-eastern region of India, there are several reports on the outbreak of diarrhoea and intestinal parasitic diseases. This high prevalence is mainly attributed to drinking unsafe water, poor sanitation, and improper cooking habits of beef and pork, and it also is associated with immuno-compromised individuals including HIV seropositives and AIDS patients. The large number of opportunistic and non-opportunistic intestinal parasitic diseases are found to be associated with immunologically incompetent or weak individuals, in particular the HIV positive patients is already established (Anand et al., 1998). The state of Manipur has the largest number of HIV positive patients in India, and most of the patients fall in the injecting drug users (IDUs) category.

In this chapter, ethnomedicinal informations about folklore medicinal plants are collected from local healers, Haori-khanong of the Tangkhul Naga
tribals of Manipur and details about each plant are discussed, which are supported by experimental investigations of these plant extracts for various biological activities, carried out in course of our study. In traditional medicine system, many plants and/or herbs are claimed to have curing properties of various ailments without scientific bases. A report on ethnobotanical study of the Tangkhul Naga tribe of Ukhrul Manipur has been cited in the literature (Elangbam, et al., 1989), which was simply a survey report about the uses of the medicinal plants from the local people. In the present report, therefore, an attempt has been made to validate the acclaimed efficacy of these plants for their antidiarrhoeal, antischistosomal, antinematodal and antifilarial properties, besides the informations of their claims for other ailments are described. Herbarium sheets of each plant/plant parts are deposited in the Department of Zoology, North-Eastern Hill University; the specimen voucher number is mentioned against the name of each plant.

**Folklore medicinal plants used by Tangkhul Nagas**

*Rhus javanica* L. (Specimen voucher No. AKY-202) syn. *R. semialata* Murray; *R. buckianela* Roxb. (Family: Anacardiaceae) *R. javanica* L. (common name: Chinese sumac) is a small pretty tree with branchlets, petioles, leaves beneath and panicles clothed with a dense soft pubescence. Leaves are opposite, sessile, oblong and measured about 10"–18" long. Flowers are small white or yellow-green of 0.08" long, bark is rough, and seeds are compressed, red, orbicular and shining when ripe. The ripen fruits, locally called as *Comfuteti*, are eaten with a good sour taste. These small acid drupes of 0.3 in. in diam. have a long history of folklore medicine use among the traditional healers (*Haori-Khanong*) of Naga tribal community to treat dysentery and diarrhoea as well as the other gastrointestinal disorders.

Distribution: It is found in grassland area of Naga Hills and in temperate range of the Himalayas at the altitude of 3-6,000 ft.

In the recent times, a study has been carried out regarding the antidiarrhoeal activity of methanol extract of *R. javanica* ripe fruits in albino mice (Tangpu and Yadav, 2004). The study revealed that 80% of the animals were protected from castor oil induced diarrhoea. Moreover, the extract significantly reduced the faecal production, intestinal secretion and gastrointestinal motility in the treated animals.

*Swertia angustifolia* Buch.-Ham. ex D. Don (Specimen voucher No. AKY-201) (Family: Gentianaceae) *S. angustifolia* Buch.-Ham. ex D. Don is locally known as *Ramkuine* in Paoyi. It is a once-flowering, erect herb, 1-3" high. Leaves are narrowly lanceolate, sub-1-nerved narrow at the base; corolla-lobes are white or bluish oblong acute with one large orbicular gland near the base. Some workers prefer to give a common name of this plant as Hill chirata. It is found in subtropical Himalaya, alt. 1-6000
ft. The decoction of this plant is commonly consumed by the local people in treating high fever, cough as well as diarrhoea.

A study on antidiarrhoeal efficacy of *S. angustifolia* in experimental diarrhoea in mice has been communicated (Tangpu and Yadav, 2005). The results for the study show that the methanol extract of *S. angustifolia* reduced the faecal output in a dose dependent manner. This indicates towards presence of an antisecretory or proabsorbptive property in the plant extract. The charcoal meal induced gastrointestinal transit test was carried out to find out the effect of the extract on peristaltic movement of intestine. It was observed that the test extract suppresses the propulsion of charcoal marker that inhibits the accumulation of intestinal fluid secretions in a dose dependent manner. This finding suggests that *S. angustifolia* has the ability to influence the peristaltic movement of intestine indicating thereby towards the presence of an intestinal antimotility activity in the plant extract. Further, a significant inhibition in the diarrhoeal droppings after castor oil induction observed in the present study, suggests that the test extract has the property to inhibit both secretory and motility mechanisms of diarrhoea.

*Bidens pilosa* L. (Specimen voucher No. AKY-204) (Family: Compositae; Asteraceae) *B. pilosa* L. is a tall erect herb 2 – 4 ft with opposite 3-foliolated leaves. Leaves are 5-7 white rays, easily recognized by its angular slender black cypselae (0.5"'-0.7" long) with 2-4 rigid awns with bristles by which they adhere to the clothes/garments or body. Locally known as *Napnar*, this shrub which is considered as weeds in house-yard gardening has common names as Beggar’s tick, Spanish needle or cobbler’s pegs. The leaf and inflorescence of this plant are lesser used to cure diarrhoea, wound healing etc in the Tangkhul Naga traditional medicine system.

It is found throughout India, ascending the Himalaya and other mountains to 6000 ft and distributed in all the warm countries.

The leaf methanol extract of this plant has been tested against experimentally induced diarrhoea in mice in our study. The results of the study yielded a positive antidiarrhoeal activity with regards to its capacity to reduce faecal production, protect frequency of defecation, intestinal motility and accumulation of intestinal fluids.

*Galingsoga parviflora* Cav. (Specimen voucher No. AKY-203) (Family: Asteraceae; Compositae) *G. parviflora* Cav. is a weak weed, an erect, hispid or glabrous, multi-branched annual herb growing to a height of 2 feet. The upper parts of the plant have a slender, slightly hairy stem. Leaves are petioled, 1–2", membranous, ovate, obtusely acuminate, 3-nerved, and subserated. This weed is found in cultivated and waste places in the Himalaya at the altitude of 4 – 8000 ft. It was believed to learn its medicinal uses in the region when Japanese troops invaded in the World War II, so it is locally known as *Japan-khavu*. The leaf and inflorescence are used in treating diarrhoea in the folklore medicine practice of Naga community.
In course of our study, the methanol leaf extract of this plant has been screened for its antidiarrhoeal property: the study provided lesser inhibition of gastrointestinal transit and secretion, but has a positive effect on faecal output in the treated animals.

**Cymbopogon citratus** Stapf. (Specimen voucher No. AKY-206) syn. *Andropogon citratus* DC. ex Nees (Family: Poaceae; Gramineae) *C. citratus* Stapf is a tall aromatic grass abundantly growing in the grassland near the cultivated land of the Naga Hills. The grass shoot grows up to 6 ft. high. Leaves are usually narrow, base rarely surrounded or cordate. Inflorescence of solitary binate digitate is fascicled or panicked spikes. Spikes binate on the peduncle which is enclosed in a spathiform sheath; sessile spikelet is dorsally compressed. It is found distributed in tropical Asia including Peninsula of India, and the Naga Hills. The whole stalk and the leaf are boiled and the decoction is drunk to relieve cough, stomach ache and to treat diarrhoea. This lemongrass is called *Harvosing* in local dialect.

In our study, an antidiarrhoeal testing of this stalk and leaf extract was performed using experimentally induced diarrhoea in albino mice. The result of the study revealed that there was significant reduction in the faecal output in the treated animals, delayed in the diarrhoeal episodes; gastrointestinal transit and secretion in the lumen were significantly inhibited in mice. Therefore, the study would suggest the use of this grass to treat the gastrointestinal complaints.

**Quercus dealbata** Hook. & Thomas (Specimen voucher No. AKY-205) (Family: Fagaceae) syn. *Q. fenestrare* Roxb., *Q. callicarpifolia* Griff., *Q. dealbata* Hook. & Thomas is a lofty evergreen tree whose acorns or seeds in roasted and bark or bark juice are taken in treating dysentery and diarrhoea. This oak tree, local name *Hoktheithing/Machthing*; *Prungtei* is the name for the acorn, is growing in the forests at higher elevation in Naga Hills at alt. 5800 ft, Bhutan and Khasia Mountains at alt. 3-6500 ft. Branches are glabrous or hoary, leaves coriaceous elliptic-ovate, nerves 6-12 pairs and hoary nut.

A study on evaluating its antidiarrhoeal efficacy has been carried out in experimental induced diarrhoea-mouse model as part of our investigations, and the results seemed to justify the claim of the Naga people use for treatment of diarrhoea.

**Psidium guajava** L. (Specimen voucher No. AKY-001) (Family: Myrtaceae) *P. guajava* L. is a horticulture plant that grows up to 35 feet tall with its spreading branches and smooth bark. The leathery leaves are opposite oblong-elliptic and have pronounced veins. When crushed they are aromatic. The flowers are white and somewhat fragrant. Although a tropical species, the tree can withstand some cold for a short period of time but no more than a few degrees of frost. Guava is widely grown for its fruit in the tropics. It has a distinctive fresh aroma with a sweet musk odour and the vitamin C content is higher than in citrus. The fruit, exuding a strong,
sweet, musky odor when ripe, may be round, ovoid, or pear-shaped, 2 to 4 in. (5-10 cm) long. Actual seed counts have ranged from 112 to 535 but some guavas are seedless or nearly.

Locally named as Pungton, in the north-eastern part of India, various Naga tribes use fresh leaf decoction of *P. guajava* in curing diarrhoea, in eliminating intestinal parasites as well as used for its digestive property. Our studies on its leaf extract against castor oil induced diarrhoea showed protection of the experimental mice from diarrhoeal droppings up to 60% at 500 mg/kg dose, thus the study seems to support the claims of the Naga locales.

**Passiflora edulis** Sims (Specimen voucher No. AKY-209) (Family: Passifloraceae) *P. edulis* Sims is a vigorous, climbing vine that clings by tendrils to almost any support. It can grow 15 to 20 ft per year once established and must have strong support. It is generally short-lived (5 to 7 years). The evergreen leaves of passion fruit are alternate, deeply 3-lobed when mature and finely toothed. They are 3 to 8 inches long, deep green and glossy above, paler and dull beneath and, like the young stems and tendrils, tinged with red or purple, specially in the yellow forms. A single, fragrant flower, 2 to 3 inches wide, is born at each node on the new growth. The bloom, clasped by 3 large, green, lifelike bracts, consists of 5 greenish-white sepals, 5 white petals and a fringe like corona of straight, white-tipped rays, rich purple at the base. It also has 5 stamens with large anthers, the ovary and triple-branched style forming a prominent central structure. Purple passion fruit is self-fruitful, but pollination is best under humid conditions. The flowers of the yellow form are perfect but self-sterile. Carpenter bees are the most efficient pollinator, much more so than honey bees. Wind is ineffective because of the heaviness and stickiness of the pollen. The flowers can also be hand pollinated. The nearly round or ovoid fruit, 1-1/2 to 3 inches wide, has a tough rind that is smooth and waxy and ranging in hue from dark purple with faint, fine white specks, to light yellow or pumpkin-color. The unique flavor is appealing, musky, guava-like and sweet/tart to tart. The yellow form has generally larger fruit than the purple, but the pulp of the purple is less acid, richer in aroma and flavor, and has a higher proportion of juice (35-38%). The vine, especially the yellow form, is fast-growing and will begin to bear in 1 to 3 years. Ripening occurs 70 to 80 days after pollination. The purple passion fruit is found in tropical countries like southern Brazil through Paraguay to northern Argentina, Australia and tropical Asia.

In Naga traditional custom, the leaves are commonly boiled and eaten in delicious dish for its taste as well as people's belief in enhancing digestion and in dropping gastric problems. Therefore, this plant (local name: *Stabolni/Stabolna*) has also been screened for antidiarrhoeal efficacy using castor oil-mouse model. 500 mg/kg dose of the extract could protect up to 60% in the mice from diarrhoeal droppings after castor oil was induced to the animals.
Zingiber cassumunar Roxb. (Specimen voucher No. AKY-208) (Family: Zingiberaceae) Z. cassumunar Roxb. commonly known as cassumunar ginger is a rhizomatous aromatic herb, which is widely cultivated in tropical Asia. Rootstock is biennial, bearing many sessile tubers. Leafy stem is about 3-4 ft high. Leaves are 6-23 by 1", tapering gradually to the point. Spike 2-3 by 1" diam., peduncle 0.5-1ft, very rarely flowers. Known as Halue in local dialect, in the traditional medication, the fresh juice of this rhizome is drunk as to cure cough, stomach running, stomach ache and other abdominal complaints.

We have carried out a study on this plant to test against non specific diarrhoea induced by castor oil in the albino mice. The result yielded 50 % protection in the treated mice from diarrhoeal episodes at the 500 mg/kg, p.o. of the methanol rhizome extract.

Curcuma domestica Valeton (Specimen voucher No. AKY-207) syn. C. longa Linn. (Family: Zingiberaceae) C. domestica Valeton is also a rhizomatous herb, rhizomes are short, tuberous, yellow flesh which dried powders are often used as a spice in colouring curries and chili dishes. It is found to be originated from India, Southeast Asia, and now it is distributed in the tropical countries worldwide. This plant (vernacularly named Yaingang) is believed to relieve from abdominal pain due to stomach running in the folklore Naga medicine system. On screening upon this herb extract for its antidiarrhoeal efficacy, the methanol test extract could protect 40 % of the animals from diarrhoeal droppings at its 500 mg/kg.

Zanthoxylum rhetsa DC. (Specimen voucher no. AKY-213) syn. Z. budruna Wall.; Fagara budruna Roxb. (Family: Rutaceae) Z. rhetsa DC. (commonly called prickly ash, Crocodile or Satin wood), is a moderate-sized deciduous tree with pale corky bark, covered with conical prickles on stems and branches. It is relatively a white, hard wood; carving usually have a very smooth finish – making them look a little like an ivory. Leaves are clustered towards the ends of the stout branchlets and are 18" – 2 ft long (with the petiole). Flowers are 0.17" diam., yellow and 4-merous in large terminal panicles with opposite branches. Seeds are blue-black, tasting of black pepper.

Distribution: Commonly found in shaded moist localities, ascending to 1800 m.

The screening of the methanol leaf extract of this plant against Hymenolepis diminuta infections in albino rats proves to possess anticestodal property. At its 800mg/kg, p.o. dose, 88 % worm elimination was recorded in our study. Antifilarial activity was studied against S. cervi in in vitro model. 40 mg/ml yielded mean mortality time of 1h (Tangpu and Yadav, 2003). The result might be assumed to have provided the support of the claim of the traditional healers as a deworming remedy.

Butea minor Ham. in Wall. (Specimen voucher No. AKY-215) (Family: Fabaceae; Papilionaceae) B. minor Ham. in Wall. is a medium
small sub-erect shrub with crooked trunk; reaching to a height of 5-12 ft. Shoots are clothed with grey or brown silky pubescence and petiole 0.25"-0.5". Leaves are 3-foliated and broad. Flowers are large, scarlets and orange of 1.5"-2" long. Pod is about 6" long, velvety brown, seed is oval compressed brown and 1.5" long. It is found distributed in the plains from Himalayas to Ceylon and Birla, ascending to 4000 ft. in the north-west. In this region of Northeast India, it is found in the grassland forming a gregarious forest. The seed (Kamkutei in local name) has a legendary name in causing dead to children of gastrointestinal worm infections, especially Ascaris if eradication of the worms fails by taking the roasted seeds. While roasting, seeds not busted are believed to exterminate children, so only busted seeds are thus consumed to eradicate worms heavily infected especially in children.

Work on its seed extract for anticestodal activity against H. diminuta is under investigation.

_Artemisia ambrosifolia_ Linn. (Specimen voucher No. 219). (Family: Asteraceae; Compositae) _A. ambrosifolia_ Linn. is a scendent, deciduous shrub growing to 0.6m. It flowers from August to September. The scented flowers are hermaphrodite (have both male and female organs) and are pollinated by wind. The plant prefers light (sandy) and medium (loam) soils, requires well-drained soil and can grow in nutritionally poor soil. The plant prefers acid, neutral and basic (alkaline) soils and can grow in saline soil. It cannot grow in the shade. It requires dry or moist soil and can tolerate drought. The plant can tolerate maritime exposure.

The leaf extract is given in acute stomach pain as well as in treating dysentery. Smashed leaves, Maharni/maharna in local Peh dialect, are applied to abdomen and also to forehead to relieve from acute abdominal pain. Inflorescence of this plant is juiced and taken in eradicating gastrointestinal worms. The methanol extract of the leaves and inflorescence of _A. ambrosifolia_ has been tested against S. cervi, a bovine filarial parasite, and mortality ranged from 0.83 to 2.50 h at the concentration of 5, 10, 20 and 40 mg/ml (Tangpu and Yadav, 2003). This study may substantiate the use of this plant as a folklore medicine.

_Piper confusum_ DC. (Specimen voucher No. AKY-217) (Family: Piperaceae) _P. confusum_ DC. (Piperaceae), locally named as Lungshimhanni is claimed for its deworming efficacy in the Nagas folklore medication. It is a fleshy and soft shrub. The leaves are opposite, stipules are absent. Each flower is associated with an umbrella-like bract. The fruit is a berry. This plant is found distributed in shady forests of tropical countries. The leaf extract has been tested against _S. cervi_ resulting in negligible effects on the mortality of the parasites.

_Urena lobata_ L. (Specimen voucher No. AKY-218) syn. _Urena trilobata_ Vell. (Family: Malvaceae) _U. lobata_ L., Caesar’s weed is a small shrub growing abundantly on the roadsides. This mallow family plant is a perennial, flowering and seed bearing vascular shrub growing up to 1-2 ft
high. The lobed leaves are covered in star-shaped plant hairs which give the leaves a grayish colour and raspy feel. Its leaf and offshoot are smashed to extract juice and the juice is drunk to cure gastric complaints. Its distribution ranges from tropical to subtropical countries including South America, Florida, Australia, Hawaii, Puerto Rico, Virgin Islands, Alaska and Himalaya ranges including Naga Hills. The methanol extract of this plant could protect 40% of the tested mice at its 500 mg/kg of the mice body weight.

*Trifolium repens* L. (Specimen voucher No. AKY-211) (Family: Fabaceae; Papilionaceae) *T. repens* L. is a small perennial herb that is used as a common forage crop in the temperate and sub-tropical regions of the world. It has a common name as White clover. It is widely distributed in moist temperate zones, Mediterranean areas and some cool subtropical parts of the world, *viz.* Europe, North America, southern Latin America, Australasia, Japan. It is glabrous perennial with trifoliate leaves; leaflets ovate or circular with minutely serrate margins and usually whitish leaf markings on the upper mid surface; stipules pale and translucent with a short point. Inflorescences are globular racemes, with 20-40 florets at the end of long peduncles originating from leaf axils on the stolons. Florets are white, often tinged pink, becoming deflexed with age. White clover is cross-fertilized by honey bees and bumble bees and the seeds, up to 3-4 per pod, ripen three to four weeks after pollination. Seeds are heart-shaped with a smooth surface, coloured bright yellow to yellowish brown, becoming darker with age. In the folk medicine practice of the Nagas, the hot decoction of the aerial shoots of the plant *T. repens* (locally known as *Anikatam*) is used as a deworming remedy.

Our study has been reported evaluating its anticeustodal activity using experimental *Hymenolepis diminuta* Rudolphi infections in albino rats. Doses of *T. repens* aerial shoots extract 200 and 500 mg/kg reduced the mean fecal egg counts of *H. diminuta* by 47.72% and 54.59% and worm recovery rate by 60.00% and 40.00%, respectively. The study suggested that the aerial shoots of *T. repens* bear anticeustodal properties and supports its use in the traditional medicine system (Tangpu *et al.*, 2004).

*Solanum myriacanthum* Dunal (Specimen voucher No. AKY-216) (Family: Solanaceae) *S. myriacanthum* Dunal is a thorny shrub, the fruits are used as shampoo in the folk cosmetics and paste of fruits is applied after warming to abdomen to relief stomach ache suspected to be of gastrointestinal worm burden. It is found in the waste land and roadside in the Naga region. We have studied the efficacy of the plant's ripen berries by exposure of the methanol extract at various concentrations to a BPS medium containing *S. cervi* adult worms. 40 mg/ml yielded mean worm mortality time at 0.67 h (Tangpu and Yadav, 2003).

*Carica papaya* Linn. (Specimen voucher No. 217) (Family: Caricaceae) *C. papaya* Linn. is a small tree with large palmately lobed leaves. The papaya plant has an erect branchless trunk 6-20 ft (1.8-6.1 m) tall and
a palm-like head of foliage at the top. It is a short-lived, fast-growing, woody, large herb to 10 or 12 feet in height. It generally branches only when injured. All parts contain latex. The hollow green or deep purple trunk is straight and cylindrical with prominent leaf scars. Its diameter may be from 2 or 3 inches to over a foot at the base. The leaves emerge directly from the upper part of the stem in a spiral on nearly horizontal petioles 1 to 3-1/2 feet long. The blade, deeply divided into 5 to 9 main segments, varies from 1 to 2 feet in width, and has prominent yellowish ribs and veins. The life of a leaf is 4 to 6 months. The five-petalled flowers are fleshy, waxy and slightly fragrant. A properly ripened papaya is juicy, sweetish and somewhat like a cantaloupe in flavor, although musky in some types. The fruit (and leaves) contains papain which helps digestion and is used to tenderize meat. The edible seeds have a spicy flavor somewhat reminiscent of black pepper.

Milky latex is considered anthelmintic. It is now present in every tropical and subtropical country. Experimentally, its young fruit extract has been tested against adult Setaria cervi, a cattle filarial parasite in an in vitro experimental model. The mean mortality time of the parasites ranged from 0.67 h at 40 mg/ml to 1.33 h at 5 mg/ml (Tangpu and Yadav, 2003).

**Adhatoda vasica Nees** (Specimen voucher No. AKY-214) (Family: Acanthaceae) *A. vasica* Nees is a bushy dense shrub, 4–8 ft high sometimes arborescent 20 ft high with large minute pubescent elliptic leaves 8″ by 3″ long, flowers in Feb.-March, large flowers sub-sessile in the axils of opposite bracts of axillary and terminal spikes. It is commonly called as Maiden hair. It is distributed in Malaya and S.E Asia, in India, it is found in Punjab and Assam to Ceylon and Singapore. The leaf decoction of this large shrub, locally known as Sorukni, is popularly used is eliminate intestinal worms of both the dogs and human in the folklore practice.

Testing of the methanol extract of the plant’s leaf against *Hymenolepis diminuta* worms, a cestode parasite, has been investigated in course of our study and the study yielded a very satisfactory result (i.e. 84 % reduction in worm count in treated experimental animals at its 800 mg/kg, p.o. dose), this proves to be a potential candidate for deworming remedy as claimed by the Nagas.

**Strobilanthes discolor** T. Anders (Specimen voucher No. AKY-212) syn. Goldfussia discolor Nees (Family: Acanthaceae) commonly called as Lavender bell, *S. discolor* T. Anders is a large gregarious shrub which is locally known as Masupni. Leaves are elliptic cuspidate-acuminate glabrous, hairy calyx and 1.3″ nearly glabrous corolla. It is found growing in the shady garden yard in sub-gregarious rows. Its distribution ranges from Himalayas range including Naga Hills, Bhutan, Assam and Khasia mountains. The leaf decoction of this shrub is consumed by the Tangkhul Nagas to get rid of gastrointestinal worms, to cure severe cough, and to treat backache.
We have carried out a study to evaluate its anticestodal property against *Hymenolepis diminuta* infections in rats (Tangpu *et al.*, 2005), and found that 800 mg/kg double doses of this plant extract treated at immature stages to infected rats, showed complete eradication of the worms. When treatment was given at adults stages of the worms, the treatment showed significant reduction in the worm count in dose dependent manner. So far in the literature, there is no other report of using this shrub for any biological activity.

**Conclusions**

The present communication reports the experimental investigations of twenty medicinal plants for their properties against diarrhoea, tapeworm infections, and filarial parasitic complications. This paper forms the first experimental study on the medicinal plants of the Tangkhul Nagas of Ukhrul district, Manipur. There is a vast scope for the folklore medicinal research in this area, as most informations still remain unexplored. In the present study, most of the plants tested hold promising medicinal potentials: among them are *R. javanica*, *S. angustifolia* and *P. guajava* as antidiarrhoeal remedy; *S. discolor* and *A. vassica* for anticestodal agents; and *S. myrtacanthum*, *C. papaya* and *A. ambrosifolia* as antifilarial remedy.

**Acknowledgements**

Authors thank the department authority for providing the laboratory facility in carrying out this work, Dr. B. Gurung, Herbarium Curator, NEHU, for identifying and authenticating the plant materials, and special thanks to CSIR, New Delhi for supporting partial financial aids in the form of awarding fellowship to Vareishang Tangpu.

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